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Reaction of cycloheptanone with concentrated sulfuric acid

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Abstract

Treatment of cycloheptanone or 2-cycloheptylidenecycloheptanone with concentrated sulfuric acid, leads to self-condensation accompanied by intramolecular rearrangement and cyclization to give substituted tetrahydrofurans, viz. 2-methyl-2, 3-cyclohexano-4, 5-cyclohepteno-(Δ 5)-2, 3, 4, 5-tetrahydrofuran and 2-methyl-2, 3-cyclohexano-5-hydroxy-4, 5-cycloheptano-2, 3, 4, 5-tetrahydrofuran. Self-condensation of ketones with 6-membered rings under the action of concentrated sulfuric acid, proceeding via carbonium ions, and accompanied by contraction to a 5-membered ring, is also characteristic of cycloheptanone, the 7-membered ring of which isomerizes to a 6-membered one. © 1968 The Faraday Press, Inc.

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